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IN THE

Supreme Court of the United States

ENTERGY CORPORATION,

Petitioner,

v.

ENVIRONMENTAL PROTECTION AGENCY, *et al.*,

Respondents.

PSEG FOSSIL LLC, *et al.*,

Petitioners,

v.

RIVERKEEPER, INC., *et al.*,

Respondents.

UTILITY WATER GROUP,

Petitioner,

v.

RIVERKEEPER, INC., *et al.*,

Respondents.

ON WRITS OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE SECOND CIRCUIT

BRIEF OF *AMICUS CURIAE* CALIFORNIA COUNCIL FOR ENVIRONMENTAL AND ECONOMIC BALANCE IN SUPPORT OF PETITIONERS

KEVIN M. FONG
Counsel of Record
MARGARET ROSEGAY
PILLSBURY WINTHROP
SHAW PITTMAN LLP
50 Fremont Street
San Francisco, CA 94105
(415) 983-1270

Counsel for Amicus Curiae

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QUESTION PRESENTED

Whether Section 316(b) of the Clean Water Act, 33 U.S.C. § 1326(b), authorizes the Environmental Protection Agency ("EPA") to compare costs with benefits in determining the "best technology available for minimizing adverse environmental impact" at cooling water intake structures.

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INTEREST OF *AMICUS CURIAE* [1]

The California Council for Environmental and Economic Balance ("CCEEB") is a non-partisan non-profit organization of business, labor and community leaders in California that seeks to achieve California's environmental goals in a manner consistent with a sound economy. CCEEB's membership includes the owners and operators of existing power generating facilities in California that comprise a significant percentage of the generating capacity within the state. Many of these plants are sited on the coastline or along other waterways and use ocean or surface waters for cooling. Water is drawn in through cooling water intake structures, passed through the plants' condensers to absorb heat, and then discharged back to the waterbody ("once-through" cooling). These cooling water intake structures are regulated under Section 316(b) of the Clean Water Act, which requires that the "location, design, construction, and capacity [of such structures] reflect the best technology available for minimizing adverse environmental impact," namely, the impingement and entrainment of fish and other aquatic organisms (hereafter, "BTA"). *See* 33 U.S.C. § 1326(b).

CCEEB — as well as the millions of Californians who depend on the electricity generated by these plants —

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[1] No counsel for a party authored this brief in whole or in part, and no such counsel or party made a monetary contribution intended to fund the preparation or submission of this brief. No person other than the *amicus curiae*, its members, or its counsel made a monetary contribution to its preparation or submission. The parties have consented to the filing of this brief.

will be directly affected by the Court's decision in this case and thus have a strong interest in the question on which review was granted: whether Section 316(b) allows EPA to consider the costs of compliance relative to the environmental benefits to be gained in determining what constitutes "best technology available for minimizing adverse environmental impact" ("BTA") at existing power generating facilities that utilize "once-through" cooling. Any interpretation of Section 316(b) that would bar EPA from performing a cost-benefit analysis, either for purposes of identifying a national performance standard or for purposes of making site-specific BTA determinations at existing individual facilities, would have a dire impact on California's electricity grid and, indeed, on the economy of California as a whole.

In this brief, CCEEB seeks to illustrate the importance of upholding EPA's discretion to conduct cost-benefit analyses under Section 316(b), as fundamental to the development of sound environmental and energy policy. Absent the flexibility that is made possible through cost-benefit analysis, older plants will face severe pressure to shut down prematurely rather than incur the extraordinary costs to retrofit aging infrastructure that would be necessary to achieve compliance with a "one size fits all" standard. While some facility owners may be able to recover a portion of these costs over time by passing them through to their ratepayers, other facilities operate under different business models that do not allow this type of cost-shifting. In either case, enormous up-front capital investments would have to be made to modify the cooling systems of these older plants, despite the fact that the generating units themselves may be approaching

retirement. These site-specific financial and operational circumstances, as well as the adverse environmental and societal impacts of potential alternative cooling technologies, must be taken into consideration in any reasoned decision-making process. Cost-benefit analysis is the mechanism by which these fundamental policy decisions have historically been made, and is a critical tool that should continue to be available to EPA under a proper reading of Section 316(b).

ARGUMENT

I. EPA SHOULD HAVE DISCRETION TO USE COST-BENEFIT ANALYSIS.

The proper framework for determining whether EPA may rely upon cost-benefit analyses in making BTA determinations under Section 316(b) is set forth in *Chevron U.S.A. Inc. v. NRDC*, 467 U.S. 837 (1984): If "the court determines Congress has not directly addressed the precise question at issue," then the question for the court is whether the agency's interpretation of the statute "is based on a permissible construction of the statute." *Id.* at 843 (footnote omitted). As discussed in Petitioners' briefs, there is nothing in the language of Section 316(b) which expressly prohibits EPA from conducting cost-benefit analyses in determining what constitutes BTA, either nationally or at an individual power generating facility or operating unit. Thus, the inquiry is whether EPA's interpretation of Section 316(b) — that it may conduct cost-benefit analyses under the statute — is permissible. *See* 69 Fed. Reg. 41,576, 41,603-41,604 (July 9, 2004) (hereafter, the "Phase II Rule").

Where an agency is charged with the administration of a statute, deference to its interpretation is particularly appropriate where the "decision as to the meaning or reach of a statute has involved reconciling conflicting policies." *Chevron*, 467 U.S. at 844 (quoting *United States v. Shimer*, 367 U.S. 374, 382 (1961)). That is precisely the case here, where the interests of the environment and the economy must both be considered. As in *Chevron*, EPA's interpretation of Section 316(b) "represents a reasonable accommodation of manifestly competing interests and is entitled to deference." *Id.* at 865.

Indeed, in adopting the Phase II Rule, EPA acknowledged the necessity for balancing environmental improvements to existing cooling water intake structures and individual operating units with the need to maintain reliable energy supplies for the country. Consistent with its administrative practice over the course of the past 30 years, EPA noted that "[t]he legislative history of section 316(b) indicates that the term 'best technology available' should be interpreted as 'best technology available commercially at an economically practicable cost.' This position reflects congressional concern that the application of best technology available should not impose an impracticable and unbearable economic burden." 69 Fed. Reg. 41,576, at 41,604 (citing 118 Cong. Rec. 33,762 (1972) (statement of Rep. Clausen)). In adopting the Phase II Rule, EPA determined that the costs of mandating a *specific* technology (closed-cycle, recirculating cooling systems) at existing facilities, as opposed to a requirement to achieve percentage reductions in impingement and entrainment through a variety of

allowable means (i.e., a performance standard), were not justified. *Id.* at 41,605. When it proposed the Phase II Rule in April 2002, EPA estimated that it would cost at least $3.5 billion per year, nationwide, for all existing facilities to install closed-cycle cooling,[2] and that approximately 20 additional plants might have to be built to compensate for the "energy penalty" associated with operating with cooling towers. *Id.*[3] EPA's cost estimate did not take into account the fact that a large number of existing plants would have to acquire additional property to accommodate cooling towers (assuming, in the first instance, that land could even be acquired and other land use obstacles overcome). In short, "the total capital cost investment and associated economic impact is simply too high at this time for EPA to be able to justify selecting cooling towers as a required technology for all existing Phase II facilities." *Id.* at 41,606.

Having rejected mandatory closed-cycle cooling on an economic basis, EPA considered the overall national costs of the different technologies that could be employed to achieve the required reductions in impingement and entrainment, and compared them to the environmental benefits, on a national level, that would be derived through implementation of these technologies. EPA determined that, overall, the costs

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[2] This is equivalent to approximately $4.2 billion in 2008 dollars using a conservative 3% annual adjustment for inflation.

[3] The period of time over which EPA assumed the Phase II Rule would be implemented is not specified. Based on information available to the industry, total retrofitting costs are expected to be at least an order of magnitude greater than EPA's annual estimate. *See infra* at p. 7.

were warranted relative to the environmental benefits. *Id.* at 41,603-41,604. However, EPA explicitly recognized that the same may not hold true for an individual facility where, due to site-specific considerations, the costs could outweigh the environmental benefits to be gained at a specific location. *Id.* To address this concern, EPA adopted a range of different compliance alternatives for meeting the performance standards "to provide a significant degree of flexibility to Phase II existing facilities, to ensure that the rule requirements are economically practicable, and to provide the ability for Phase II existing facilities to address unique site-specific factors." *Id.* at 41,591. EPA noted that the costs of retrofitting could be disproportionate to the benefits derived, and that "the validity and extent of such concerns often must be addressed on a case-by-case basis." *Id.* at 41,606.

In light of the "manifestly competing interests" (*Chevron*, 467 U.S. at 865), EPA's interpretation of Section 316(b) represents a reasonable accommodation that is entitled to deference. Thus, EPA should have discretion to use cost-benefit analysis in determining BTA for cooling water intake structures at existing power generating facilities and operating units.

II. PROHIBITING EPA FROM USING COST-BENEFIT ANALYSIS WOULD IMPOSE ENORMOUS COSTS AND CAUSE ECONOMIC DISRUPTION.

In adopting the Phase II Rule, EPA emphasized the need "to provide a significant degree of flexibility to Phase II existing facilities, to ensure that the rule requirements are economically practicable, and to provide the ability for Phase II existing facilities to address unique site-specific factors." 69 Fed. Reg. 41,576, at 41,591. EPA recognized the enormous costs that would be imposed by any requirement that existing facilities adopt closed-cycle cooling. *Id.* at 41,605. Indeed, one study estimates that the nationwide cost of retrofitting would be $40 billion. *See* UWAG Pet. For Writ of Cert., p. 37 (discussing UWAG Comments on Proposed § 316(b) Rule for Existing Facilities Comment 1.41, Aug. 7, 2002).

Moreover, as noted by Petitioner UWAG, large areas of the United States are operating with thin generation and transmission capacity margins. These concerns are particularly acute in California, where electricity supplies already are barely sufficient to meet demand, especially in Southern California, during periods of peak demand (summer months). California suffers from a lack of adequate generating and transmission capacity, and its complex permitting scheme and comprehensive environmental review requirements make the siting and construction of new generation a multi-year process under the best of circumstances. In addition, California is vulnerable to natural disasters, such as firestorms that often cause the shut-down of major transmission lines

for extended periods. These fires have ravaged California annually over the last several years, and the added demand that is placed on the grid as a result is significant. Broad areas of the state are at repeated risk of power shortages and blackouts during these periods.

Even more to the point, nearly all of California's 19 active coastal power plants — which account for nearly one-half of the state's generating capacity — use once-through cooling. This includes the two nuclear baseload facilities (Diablo Canyon Generating Station and San Onofre Generating Station) which are currently operating at greater than 99% capacity. In addition, eight of the plants are designated as Reliability-Must-Run ("RMR") facilities by the California Independent System Operator ("CAISO"). *See* California Energy Commission, *California Energy Commission Comments on the State Water Resources Control Board Scoping Document and Proposed Statewide Policy on Clean Water Act 316(b) Regulations* (Sept. 25, 2006), *available at* http://www.energy.ca.gov/siting/documents/2006-09-25_LETTER_TO_SWRCB.PDF (hereinafter "CEC Comments"), p. 2. RMR facilities are designated in areas where the local public utility's ability to import power is limited, and the utility must rely on local power plants to maintain electric service reliability. While the annual capacity factor for RMR facilities averages about 5%, the plants *must* be immediately available when they are dispatched by the CAISO. The power provided by these load-following facilities is vital to grid reliability and is essential to preventing power shortages and blackouts.

Many of California's existing coastal power generating facilities may be unable to comply with the large percentage reductions in impingement and entrainment that would be required by the Phase II Rule. As such, under the Phase II Rule as originally promulgated, these plants (many of which are operated by CCEEB's members) would have sought site-specific determinations of BTA, specifically, that their costs of complying with the performance standard would be significantly greater than the environmental benefits resulting therefrom. *See* 40 C.F.R. § 125.94(a)(5)(ii) (suspended July 9, 2007, 72 Fed. Reg. 37,107 (July 9, 2007)). Absent the ability to make site-specific demonstrations of BTA based on a cost-benefit test, these coastal plants might be required to shut down for extended periods in order to retrofit with alternative cooling technologies.[4] Even if these shutdowns were staggered to occur over a period of time (a scenario that is not contemplated by the Phase II Rule), the state could still suffer significant power shortages, even if some new replacement generation became available. Given the very high capacity factor for the state's two coastal baseload nuclear power plants, it is doubtful whether there is enough excess generation available to

[4] This, of course, assumes, that permits could even be obtained from California regulatory authorities for the installation of cooling towers in the coastal zone. By their very nature, coastal cooling towers are large and ungainly, and have their own potentially significant adverse environmental and societal effects. In the face of an absolute requirement to comply with the national performance standard, these adverse affects would have to be disregarded. This result is both illogical and inconsistent with the broad Congressional directive in Section 316(b) "to minimize adverse environmental impact."

replace their near-zero greenhouse gas and criteria pollutant generating capacity that would be lost during a prolonged shut down. Even if such excess generation capacity could be found, all of the power would likely have to be provided by fossil fuel-fired plants that emit greenhouse gases and criteria pollutants, to the detriment of the state's ongoing efforts to combat global warming, in direct conflict with the California Global Warming Solutions Act of 2006 ("AB 32") (Cal. Health & Saf. Code, § 38500, *et seq.*) and the state's efforts to comply with ambient air quality standards for criteria pollutants as mandated by the federal Clean Air Act and the California Clean Air Act.[5]

Faced with these costs and burdens, many of the plants would simply shut down, especially if they are nearing the end of their useful lives in any event. These shutdowns would leave California with a significant shortfall in its power supplies and would pose a critical threat to the stability of California's electricity grid. These very concerns have been voiced by the California Energy Commission ("CEC"), the state agency charged with ensuring a reliable supply of electricity for California that is affordable and that minimizes harm to the environment. In its comments on the preliminary draft statewide policy on Section 316(b) being developed by the California State Water Resources Control Board,[6] the CEC underscored the current stress

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[5] AB 32 mandates significant reductions in current levels of greenhouse gas emissions by 2020.

[6] Both the final content of the preliminary draft policy (which is subject to formal rulemaking procedures), as well as the timing of its adoption, remain uncertain, and could well be affected by the Court's decision in this case.

on California's electricity grid and the paramount need to avoid untimely loss of generation by existing facilities. *See* CEC Comments, p. 1. The CEC noted that California's fleet of power plants is in the midst of a modernization trend, and that the most cost-effective time to modify or change cooling systems is when the plants are shut down for repowering. *Id.* at 2. However, not all of California's existing coastal power plants are expected to re-power. Some will retire at the end of their useful life, and it is these plants that are in particular danger of closing prematurely in the face of a requirement for an expensive retrofit. Since it is not currently known which plants will receive extended contracts in recognition of grid reliability requirements, a "one size fits all" retrofit requirement that does not allow for site-specific, cost-benefit considerations to be taken into account would certainly accelerate the shut-down of some facilities for economic or financial reasons. In the absence of adequate, operational replacement capacity, the state "cannot afford to have additional generating units retire" in response to retrofitting requirements. *Id.* at 3.

The CAISO, the entity responsible for the safe and uninterrupted flow of electricity to the grid, had also expressed concerns about how California will make it through the summer of 2008 without any serious disruption to the state's utility grid. *See* CAISO, *2008 Summer Loads and Resources, Operations Preparedness Assessment* (April 28, 2008), *available at* http://www.caiso.com/1fb7/1fb7855eed50ex.html. The CAISO's conclusion is that California has very little cushion or margin for any potential shutdowns of electricity supply, to the point where the loss of a single

unit's output could result in power outages. More pervasive shutdowns could result in a four-fold increase in the risk of emergency blackouts. *See* CAISO, *Old Thermal Generation, Phase I Report (2008-2012 Study Results)* (February 29, 2008), *available at* http://www.caiso.com/1f80/1f80a4a5568f0ex.html. The referenced studies by the CAISO represent the most recent in-depth analysis of overall grid reliability in California. These studies are ongoing and a more in-depth, facility-by-facility California grid reliability analysis is expected to be completed later in the year.

In California, a site-by-site (and indeed, unit-by-unit) cost-benefit analysis is essential.[7] Almost all of the 19 coastal power generation facilities in California have once-through cooling systems, and these facilities constitute nearly half of California's in-state power generating capacity. Each of these facilities must be evaluated on its own, using a cost-benefit analysis, to determine the best future course of action for that facility. Each of these facilities faces different physical, land use and financial constraints; their environmental settings differ; and they operate on any of several different business models. For example, the economic and financial circumstances facing a baseload nuclear plant operated by an investor-owned utility, a small "peaker" or load-following facility owned by an

[7] A single power plant may have multiple units with different physical and operating characteristics that may impact BTA decisions. What is appropriate or feasible for one unit may not be feasible for other units at the same plant.

independent operator, and a facility operated by a municipally-owned utility are each very different.[8] All of these variables necessarily affect the BTA determination.

Addressing such site-specific circumstances is vital in California, where a large proportion of the state's power generation capacity utilizes once-through cooling. California's precarious situation clearly illustrates the harm that would result if EPA were barred from conducting cost-benefit analyses in making BTA determinations under Section 316(b). In short, enormous costs would be imposed on individual plants, leading to a likely loss of generating capacity and widespread

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[8] Unlike investor- or municipally-owned public utilities that may have the ability to pass some or all of these costs through to their ratepayers (subject to approval by the Public Utilities Commission or other regulatory body), independent power generators operate on the basis of short-term contracts and, in the great majority of cases, are unable to pass costs through to their customers. Without a source of revenue to cover the investment needed for a re-powering or a cooling system retrofit, many independently owned plants may simply be retired. Even in the case of the utility-owned plants, significant costs may not be able to be passed through to the ratepayers. Moreover, a retrofitting project would not be undertaken at a utility-owned facility simply because some or all of the costs could be passed through. Instead, the project would need to be justified in the first instance on the basis of a detailed economic and engineering analysis. For many older plants, the investment required to accommodate a retrofit with alternative cooling technology cannot be so justified, irrespective of the ability to recover costs.

economic disruption resulting from an energy deficit, all without commensurate environmental benefit.[9]

As the agency charged with administration of the Clean Water Act, EPA's long-standing interpretation of Section 316(b), as most recently articulated in the Phase II Rule, should be upheld. Unlike health-based or water-quality based standards, technology-based standards such as Section 316(b) necessarily involve a weighing of competing interests. In adopting the national performance standards in the Phase II Rule, it was reasonable and appropriate for EPA to evaluate both the costs of new technology and the benefits that can be gained through its implementation. Furthermore, it

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[9] In conjunction with the periodic renewal of National Pollutant Discharge Elimination System ("NPDES") permits for California's coastal power plants under Section 402 of the Act (33 U.S.C. § 1342), the regional water quality control boards have required modifications and upgrades to the cooling water intake structures at many of these plants in order to implement Section 316(b). As a result, significant reductions in levels of impingement and entrainment have already been achieved, to the point where — in many cases — the continued operation of cooling water intake structures does not pose an unacceptable risk to aquatic populations. Exercising their "best professional judgment" under Section 402, the permit issuers have determined that the cost of replacing the once-through cooling water systems would be "wholly disproportionate" to the environmental benefits to be gained and that, accordingly, the existing cooling water intake structures represent BTA. At existing facilities that have already undergone modifications to achieve compliance with Section 316(b), the costs of achieving even greater reductions in impingement and entrainment, as necessary to meet a "one size fits all" standard, would be even more disproportionate to the benefits gained.

is inherently reasonable and appropriate to allow existing facilities (as distinct from new facilities) to demonstrate, on a case-by-case basis, that the costs of complying with the national performance standards are significantly greater than the environmental benefits to be gained. Were this not the case, individual facilities could be driven to expend enormous sums of money to install new cooling systems even in circumstances where the impingement and entrainment effects associated with the once-through system were demonstrably small or of nominal biological or ecological significance. Such a result should not be condoned.

The ability to allow site-specific exceptions to nationwide performance standards, based on a cost-benefit analysis that takes into account site-specific considerations, provides EPA, and state regulators with delegated authority to implement Section 316(b) as part of their NPDES programs, with the flexibility needed to make sound decisions, based on all relevant factors and to determine the best future course of action. Cost-benefit analysis is an important policy tool that accomplishes this result and that can be used wisely to avoid undesirable and unwarranted outcomes. Any interpretation of Section 316(b) that would bar EPA or authorized state regulatory agencies from comparing costs with benefits when making BTA determinations for existing facilities would interfere with an important and legitimate agency function and would most certainly have a dire impact on California and the nation.

CONCLUSION

For the foregoing reasons, the judgment of the Court of Appeals should be reversed.

Respectfully submitted,

KEVIN M. FONG
Counsel of Record
MARGARET ROSEGAY
PILLSBURY WINTHROP
SHAW PITTMAN LLP
50 Fremont St.
San Francisco, CA 94105
(415) 983-1270

Counsel for Amicus Curiae